

WE CLAIM:

1. A semi-trailer sidewall construction, comprising:
  - a horizontally aligned base rail;
  - a horizontally aligned top rail;
  - a plurality of vertical posts coupled between the top and bottom rails at spaced apart intervals along a length of the top and bottom rails;
  - a plurality of outside panels coupled between the top and base rails, separate outside panels being coupled to pairs of vertical post within the spaced apart intervals;
  - a plurality of inside panels coupled between the top and bottom rails, separate inside panels being coupled to pairs of vertical posts within the spaced apart intervals;wherein the outside and inside panels are spaced apart a distance defined by a thickness of the posts.
2. The sidewall construction of claim 1, wherein the vertical posts include first and second thicknesses, the first thickness being less than the second thickness.
3. The sidewall construction of claim 1, wherein the outside panels are coupled to the posts in a non-overlapping arrangement relative to adjacent outside panels.
4. The sidewall construction of claim 1, wherein the inside panels are coupled to the posts in a non-overlapping arrangement relative to adjacent inside panels.
5. The sidewall construction of claim 1, wherein an inward facing primary surface of the inside panels is substantially flush mounted with a primary surface of the posts that extends inward most in the trailer.

6. The sidewall construction of claim 1, wherein an outward facing primary surface of the outside panels is substantially flush mounted with a primary surface of the posts that faces outward.

7. The sidewall construction of claim 2, further comprising a spacer member positioned between opposing outside and inside panel within the spaced interval, the spacer having a thickness substantially equal to the first post thickness.

8. The sidewall construction of claim 2, wherein the vertical posts include a third thickness defined by a recessed portion at an end of the posts sized to receive a flashing member.

9. The sidewall construction of claim 2, wherein the first post thickness is defined by a distance between recessed portions formed in opposing inside and outside primary surfaces of the posts.

10. The sidewall construction of claim 2, wherein the recessed portions are recessed an amount substantially equal to a thickness of the inside and outside panels that are mounted in the respective recessed portions.

11. The sidewall construction of claim 2, wherein the second post thickness is defined by a distance between an outer most surface and an inner most primary surface of the posts.

12. The sidewall construction of claim 1, wherein the lower rail includes a plate member, the plate member being coupled between the inside and outside panels.

13. The sidewall construction of claim 12, wherein the plate member has a width/height of about 18 to about 30 inches.

14. The sidewall construction of claim 1, wherein the sidewall construction has a total thickness of about 0.25 to 2 inches.

15. The sidewall construction of claim 1, wherein the sidewall construction has a total thickness of about 0.5 inches.

16. The sidewall construction of claim 2, wherein the first post thickness is about 0.4 inches, the second post thickness is about 0.5 inches, and the outside and inside panels have a thickness of about 0.04 to 0.05 inches.

17. The sidewall construction of claim 2, further comprising an intermediate horizontal rail extending between two of the plurality of posts in the spaced interval vertically between the top and bottom rails, the intermediate rail including inside and outside primary surfaces and a reduced thickness portion substantially equal to the post first thickness.

18. The sidewall construction of claim 17, wherein a portion of the intermediate rail is exposed adjacent the inside or outside panels, includes a hollow core, and includes an aperture formed in the inside or outside primary surface that provides access into the hollow core.

19. A trailer panel assembly, comprising a plurality of inside panels and a plurality of outside panels positioned in a spaced apart orientation with an air gap defined between the outside and inside panels, the plurality of inside panels being positioned side-by-side without overlapping an adjacent inside panel, and the plurality of outside panels being positioned side-by-side without overlapping an adjacent outside panel.

20. The trailer panel assembly of claim 19, further comprising a joining post positioned between the outside and inside panels at a joining point between pairs of inside and outside panels.

21. The trailer panel assembly of claim 19, further comprising a plurality of joining posts positioned between the outside and inside panels, wherein each post is positioned at a joining point between either a pair of outside panels or a pair of inside panels.

22. The trailer panel assembly of claim 19, further comprising a joining post positioned between the outside and inside panels, wherein a portion of the post is positioned in a space between side-by-side inside panels or between side-by-side outside panels.

23. A trailer panel assembly, comprising:  
a plurality of inside panels and a plurality outside panels positioned in a spaced apart orientation thereby defining an air gap between the inside and outside panels, the plurality of inside panels being positioned side-by-side in an overlapping arrangement, and the plurality of outside panels being positioned side-by-side in an overlapping arrangement; and  
a joining post positioned in the air gap and configured for coupling the plurality of inside panels to the plurality of outside panels, a thickness of the joining post defining in part a width of the air gap.

24. The assembly of claim 23, wherein the joining post is positioned in the air gap adjacent to the overlapped portions of the outside panels and the inside panels.

25. A method of assembling a semi-trailer sidewall that includes inside and outside panels and a post, the method comprising the steps of:  
forming the post with a reduced thickness portion; and  
mounting the inside and outside panels to the post at the reduced thickness portion, wherein the reduced thickness portion defines a spacing between the inside and outside panels.

26. The method of claim 25, wherein the sidewall include a plurality of inside panels, outside panels, and posts, the posts being positioned at spaced intervals along a length of the sidewall, and pairs of inside and outside walls are positioned in the spaced intervals and coupled to posts at opposite sides of the panels.

27. The method of claim 26, further comprising mounting adjacent inside panels to one of the posts in a substantially side-by-side, non-overlapping arrangement.

28. The method of claim 26, wherein the sidewall further includes a top rail and a bottom rail, the method further comprising coupling the post and the inside and outside panels to the top and bottom rails.

29. The method of claim 28, wherein the bottom rail includes a plate structure, the method further comprising coupling the inside and outside panels to respective inside and outside primary surfaces of the plate structure.

30. The method of claim 25, further comprising inserting an insulating member between the outside and inside panels.

31. A vertical post suited for use with a semi-trailer sidewall construction, the post comprising:

inside and outside primary surfaces; and  
at least one recessed portion formed in each of the inside and outside primary surfaces, the recessed portions being configured to receive panels of the sidewall construction in a substantially flush mounted arrangement relative to the inside and outside primary surfaces.

32. The post of claim 31, wherein the post is hollow.

33. A vertical post suited for use with a semi-trailer sidewall construction, the post comprising:

inside and outside primary surfaces; and  
at least one recessed portion formed in the post between the inside and outside primary surfaces that defines a first reduced thickness portion of the post, the first reduced thickness portion being adapted and configured for being inserted between inside and outside panels of the sidewall construction to define a mounting surface and a spacing between the inside and outside panels.

34. The post of claim 33, wherein the post includes apertures formed therein that extend from the inside or outside primary surface into the hollow portion of the post.

35. The post of claim 33, wherein the post has a maximum thickness defined by a distance between the inside and outside primary surfaces of about 0.2 to about 1.5 inches.

36. The post of claim 33, wherein the first reduced thickness portion has a thickness of about 0.1 to about 1.4 inches.

37. The post of claim 33, further comprising a second reduced thickness portion formed in a end of the post and sized to receive a flashing member of the sidewall construction.

38. A trailer panel construction, comprising:  
a post having first and second opposing sides each having a recessed portion and a non-recessed portion, the post having a first thickness defined between the recessed portions of the first and second sides and a second thickness defined between the non-recessed portions of the first and second sides;  
a first panel member having opposing primary surfaces and being coupled to the post in the recessed portion of the first side;  
a second panel member having opposing primary surfaces and being coupled to the post in the recessed portion of the second side;

whereby the primary surfaces of the first and second panels that are facing each other are spaced apart a distance substantially equal to the first post thickness, and the primary surfaces of the first and second panels that are facing away from each other are spaced apart a distance substantially equal to the second post thickness.

39. The sidewall construction of claim 1, further comprising an drain structure configured to provide a fluid passage that extends from the spaced apart area defined between the outside and inside panels to an area outside the sidewall construction.

40. The sidewall construction of claim 39, wherein the drain structure is a channel formed in the base rail.

41. The sidewall construction of claim 39, wherein the drain structure is an aperture formed in a bottom edge of one of the inside or outside panels.

42. The sidewall construction of claim 39, wherein the drain structure is a channel defined between one of the outside or inside panels and the base rail by a spacer member positioned between the base rail and the one outside or inside panel.